

### Claims

- 1) Apparatus for the air circulation in double-glazed thermoinsulated walls, of the type constituted at least by a first internal pane (2) of glass and by a second external pane (3) of glass, positioned parallel to one another and defining a space (4) between them, characterized in that it comprises a tangential fan (11) of reduced size extended substantially to the full length of the thermoinsulated wall (1) and fitted in a housing (12), which is realized at the top of said space (4) and is opened to the external environment.
- 2) Apparatus according to claim 1, characterized in that said fan (11) is act to be driven at low rotational speed by an electrical motor drive fitted at an end of said housing (12).
- 3) Apparatus according to claim 1, characterized in that said housing (12) is formed by a substantially cylindrical sector (16) shaped by a bearing element (13) provided, in assembled setting, with a longitudinal opening turned to said space (4) for the air intake through the space (4) itself, and with an opposed opening for the air outlet to the outside.
- 4) Apparatus according to claim 3, characterized in that at said outlet opening of said bearing element (13) a swinging closing member (17) is fitted in order to prevent air from flowing back to the interior environment when said fan is not operative.
- 5) Apparatus according to claim 3, characterized in that said bearing element (13) is movably bound to a frame (14) which is steadily fixed peripherally to said thermoinsulated wall (1).
- 6) Apparatus according to claim 5, characterized in that said frame (14) is steadily fixed to a spacing means (7) fitted between said second external

pane (3) of glass and an intermediate pane (5) of glass, parallel to the other one, which is act to define a room (6) inside the space (4), which is turned to the outside, for the insertion of a dimming element.

7) Apparatus according to claim 5, characterized in that said frame (14) is  
5 provided with an opening turned to the interior environment, at the top of said space (4), and with an opposite external hole (24) for the air outlet, being both longitudinally extended to substantially the full length of the same frame (14).

8) Apparatus according to claim 7, characterized in that said opening  
10 turned to the interior environment of said frame (14) is closed by a movable inspection door (23) lowerly shaping a groove (25) which is act to engage the upper edge of said internal pane (2) of glass by the interposition of gasket means (26), and upperly shaping a curved portion (27) which is act to hook a corresponding folded edge of the same frame (14).

15 9) Apparatus according to claim 7, characterized in that a modular covering element (28) is fitted externally to said frame (14) extended to the full length of said thermoinsulated wall (1) and shapes lowerly a longitudinal opening (29) for the air outlet.

10) Apparatus according to claim 3, characterized in that said bearing  
20 element (13) is constituted by a light metal section.

## AMENDED CLAIMS

[received by the International Bureau on 6<sup>th</sup> May 2005 (06.05.05);  
original claims 1-10 replaced by amended claims 1-11]

- 1) Apparatus for the air circulation in double-glazed thermoinsulated walls, of the type constituted at least by a first internal pane (2) of glass and by a second external pane (3) of glass, positioned parallel to one another and defining a space (4) between them, characterized in that it comprises an air inlet opening in said space (4), in connection with the inside and positioned at the bottom of said internal pane (2) of glass; an air outlet opening (24), in connection with the outside and positioned at the top of said external pane (3) of glass; a tangential fan (11) of reduced size extended substantially to the full length of the thermoinsulated wall (1) and fitted in a housing (12), defined at the top of said space (4) and having a longitudinal opening turned to said space (4), for the air intake from the inside through the same space (4), and opened to the outside through said air outlet opening (24).
- 2) Apparatus according to claim 1, characterized in that said fan (11) is suited to be driven at low rotational speed by an electrical motor drive fitted at an end of said housing (12).
- 3) Apparatus according to claim 2, characterized in that it comprises sensors detecting the hygrothermal conditions of the air, suited to control the start of said electrical motor drive activating said fan (11).
- 4) Apparatus according to claim 1, characterized in that at said outlet opening of said housing (12) a swinging closing member (17) is fitted in order to prevent air from flowing back to the interior environment when said fan is not operative.
- 5) Apparatus according to claim 1, characterized in that said housing (12)

is defined by a substantially cylindrical sector (16) shaped by a bearing element (13) provided, in assembled setting, with a longitudinal opening turned to said space (4) for the air intake through the space (4) itself, and with an opposed opening for the air outlet to the outside.

5 6) Apparatus according to claim 5, characterized in that said bearing element (13) is removably constrained to a frame (14) which is steadily fixed peripherally to said thermoinsulated wall (1).

7) Apparatus according to claim 6, characterized in that said frame (14) is steadily fixed to a spacing means (7) fitted between said second external  
10 pane (3) of glass and an intermediate pane (5) of glass, parallel to the other one, which is suited to define a room (6) inside the space (4), which is turned to the outside, for the insertion of a dimming element.

8) Apparatus according to claim 6, characterized in that said frame (14) is provided with an opening turned to the inside, at the top of said space (4),  
15 and with an opposite external hole (24) for the air outlet, being both longitudinally extended to substantially the full length of the same frame (14).

9) Apparatus according to claim 8, characterized in that said opening turned to the inside of said frame (14) is closed by a removable inspection  
20 door (23) lowerly shaping a groove (25) which is suited to engage the upper edge of said internal pane (2) of glass by the interposition of gasket means (26), and upperly shaping a curved portion (27) which is suited to hook a corresponding folded edge of the same frame (14).

10) Apparatus according to claim 6, characterized in that a modular  
25 covering element (28) is fitted externally to said frame (14) extended to the

full length of said thermoinsulated wall (1) and shapes lowerly a longitudinal opening (29) for the air outlet.

11) Apparatus according to claim 5, characterized in that said bearing element (13) is constituted by a light metal section.

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